

ABSTRACT**METHODS OF TREATMENT AND DIAGNOSIS USING MODULATORS OF VIRUS-INDUCED CELLULAR GENE SEQUENCES**

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Applicants have used microarrays, gene expression profiling, and gene silencing methods to identify and provide a plurality of 'validated' virus-induced cellular gene sequences (*e.g.*, HMG20B, HRH1, NP and c-YES (src family kinases)) and pathways useful as therapeutic targets for modulation of viral-mediated cellular effects. Particular embodiments provide therapeutic compositions, and methods for modulation of viral infection, replication, maturation, progression, or other virally-related conditions or diseases, comprising inhibition of virally-induced gene sequences and gene products. Additional embodiments provide screening assays for compounds useful to modulate viral infection, replication, maturation or progression, or viral-related conditions or diseases. Further embodiments provide diagnostic and/or prognostic assays for viral infection, replication, maturation or progression. Preferably, the viruses all selected from the group consisting of retroviruses (*e.g.*, human immunodeficiency virus (HIV), and viruses of the family *Flaviviridae* that includes the flaviviruses (*e.g.*, West Nile virus (WNV), Japanese encephalitis virus (JEV), yellow fever virus (YFV) and Dengue fever virus (DEN)), and hepatitis C virus (HCV).

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